



US EPA RECORDS CENTER REGION 5



483786

May 15, 2014

**Sent via Electronic Mail**

Ms. Charlene Falco  
Illinois Environmental Protection Agency  
Bureau of Land, #24  
Federal Site Remediation Section  
Federal Facilities Unit  
1021 North Grand Avenue East  
Springfield, IL 62702

Re: MONTHLY PROGRESS REPORT APRIL 2014  
INTERIM CONSENT ORDER ACTIVITIES  
DEPUE SITE, DEPUE, ILLINOIS

PEOPLE OF THE STATE OF ILLINOIS VS. HORSEHEAD IND., INC., ET AL.  
CASE NUMBER 95 CH 18  
SITE ID 0110300003 - BUREAU

Dear Ms. Falco:

This progress report is being submitted by ENVIRON International Corporation (ENVIRON), on behalf of the DePue Group. The attached revised report addresses the Interim Consent Order (ICO) activities conducted from April 1 through April 30, 2014 at the DePue Site. The report also indicates planned activities for the next reporting period.

This report complies with the requirements of the ICO, Section XVI, paragraph C, and Attachment 1, paragraph 12.

If you have any questions, please call.

Sincerely,

ENVIRON International Corporation

A handwritten signature in black ink, appearing to read "S. Hayter".

Scott Hayter  
Principal Consultant

Attachment

**MONTHLY PROGRESS REPORT  
FOR  
APRIL 2014**

**INTERIM CONSENT ORDER ACTIVITIES  
DEPUE SITE  
DEPUE, ILLINOIS**

Prepared For:

Illinois Environmental Protection Agency  
1021 North Grand Avenue, East  
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1 copy – Tony Wlodarski, AMEC (electronic copy only)

**I OPERABLE UNIT 1: SOUTH DITCH SEDIMENT**

- Completed
- The DePue Group has started coordinating with the Illinois Environmental Protection Agency (IEPA) on issues regarding the five-year review.

**II. OPERABLE UNIT 2: PHOSPHOGYPSUM STACK****Summary of Work Performed during the Reporting Period:**

- Routine maintenance and monitoring activities continued at the phosphogypsum stack. These activities included pumping, observing, and recording flow and water levels, maintaining storm water diversion systems (catch basins, dams, and discharge piping), measuring flow and collecting samples at the Outfall 002 when applicable, inspecting, monitoring and maintaining groundwater collection and pumping systems, inspecting and maintaining cover integrity and supporting and maintaining the Health and Safety program.
- The center pivot irrigation system was shut down for the winter season on November 12, 2013.
- As of May 1, 2014, 139.4-million gallons of water had been discharged through the treatment wetland. Flow rates and discharge are logged daily, Monday through Friday and reported monthly to the IEPA.
- The treatment wetland sprinkler system was shut down for the winter season on November 22, 2013.
- Two samples were collected from Outfall 002 during April 2014.
- Continued preparation of a Phase I/II/III Investigation Report Addendum for the Intermediate Sand.
- Continued preparation of a groundwater modeling report. Request for a one-week extension for submittal was made to and approved by the IEPA. The original submission date was scheduled for May 1, 2014.

**Summary of Work Planned for the Next Reporting Period:**

- Continue routine maintenance and monitoring activities within the Phosphogypsum Stack system.
- Continue preparation of the Phase I/II/III Investigation Report Addendum for the Intermediate Sand.
- Submission of a groundwater modeling report with an expected submittal date of May 15, 2014. An additional one-week extension was requested of and approved by the IEPA.
- Installation of piping and pumps for seasonal operation of treatment wetlands sprinkler system, and re-start of the center pivot irrigation system.

**Problems Encountered/Resolved:**

- None

**Revisions to Scopes of Work and Schedules:**

- None

## Changes to Key Personnel, Consultants, Contractors, or Subcontractors:

- None

**III. OPERABLE UNIT 3: PLANT SITE**

## Summary of Work Performed during the Reporting Period:

- Risk Assessment
  - The DePue Group is preparing a revised Operable Unit 3 (OU3) risk assessment approach document in response to IEPA's February 7, 2014 comments.
- Interim Water Treatment Plant (IWTP) Operations
  - The IWTP treated 1,540,378 gallons of water during March 2014. The influent and effluent data are included in Attachment 2:
    - Approximately 11,150 pounds of zinc were removed.
    - Approximately 500 pounds of manganese were removed.
    - Approximately 550 pounds of copper were removed.
  - The following activities were completed at the IWTP:
    - Routine operation and maintenance.
- Site Operations
  - The most recent OU3 site fence inspections were completed on April 25, 2014. There were no issues noted; all fencing was found secure and "No Trespassing" signs were intact. No repairs were necessary.

## Summary of Work Planned for the Next Reporting Period:

- Risk Assessment
  - The DePue Group will submit the approach for completing the OU3 screening risk assessment on May 1, 2014.
- Interim Water Treatment Plant
  - The DePue Group will continue routine operation and maintenance at the IWTP.

## Problems Encountered/Resolved:

- None

## Revisions to Scopes of Work and Schedules:

- None

## Changes to Key Personnel, Consultants, Contractors, or Subcontractors:

- None

**IV. OPERABLE UNIT 4: OFF-SITE SOIL**

## Summary of Work Performed during the Reporting Period:

- Off-Site Soil Design Study
  - The DePue Group is preparing the OU4 Pilot Study Soil Sampling Report.

**Summary of Work Planned for the Next Reporting Period:**

- Off-Site Soil Design Study
  - The DePue Group will submit a report documenting the results of the Pilot Study on May 9, 2014.
  - The DePue Group has scheduled revisiting eight properties to evaluate for the potential presence of bare areas for May 14, 2014.

**Problems Encountered/Resolved:**

- None

**Revisions to Scopes of Work and Schedules:**

- None

**Changes to Key Personnel, Consultants, Contractors, or Subcontractors:**

- None.

**V. OPERABLE UNIT 5: DEPUE LAKE AND FLOODPLAIN****Summary of Work Performed during the Reporting Period:**

- DePue Lake Remedial Investigation (RI)
  - The DePue Group is evaluating the April 14, 2014 Illinois EPA response to the December 23, 2013 Sediment Preliminary Remediation Goal (PRG) Technical Memorandum.
  - The DePue Group is waiting for confirmation from IEPA on the approach for finalizing the OU5 Human Health Risk Assessment (HHRA).

**Summary of Work Planned for the Next Reporting Period:**

- DePue Lake RI Report
  - The DePue Group will continue to work with IEPA toward finalizing the OU5 risk assessments.

**Problems Encountered/Resolved:**

- None

**Revisions to Scopes of Work and Schedules:**

- Additional requirements necessary to address OU1 (South Ditch Sediments), if any, will be completed as part of the scope of work for OU5 (DePue Lake and Floodplain).

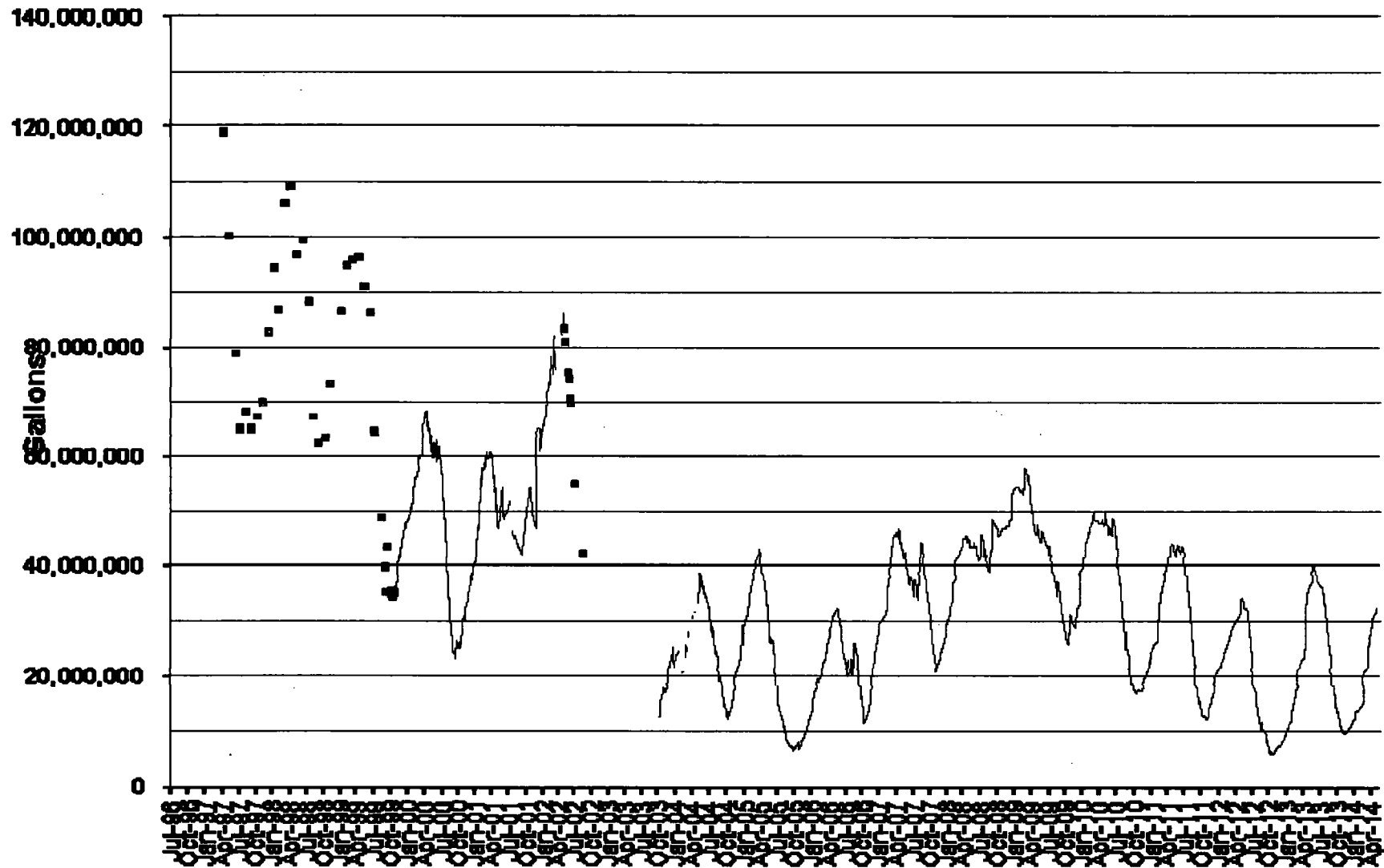
**Changes to Key Personnel, Consultants, Contractors, or Subcontractors:**

- None

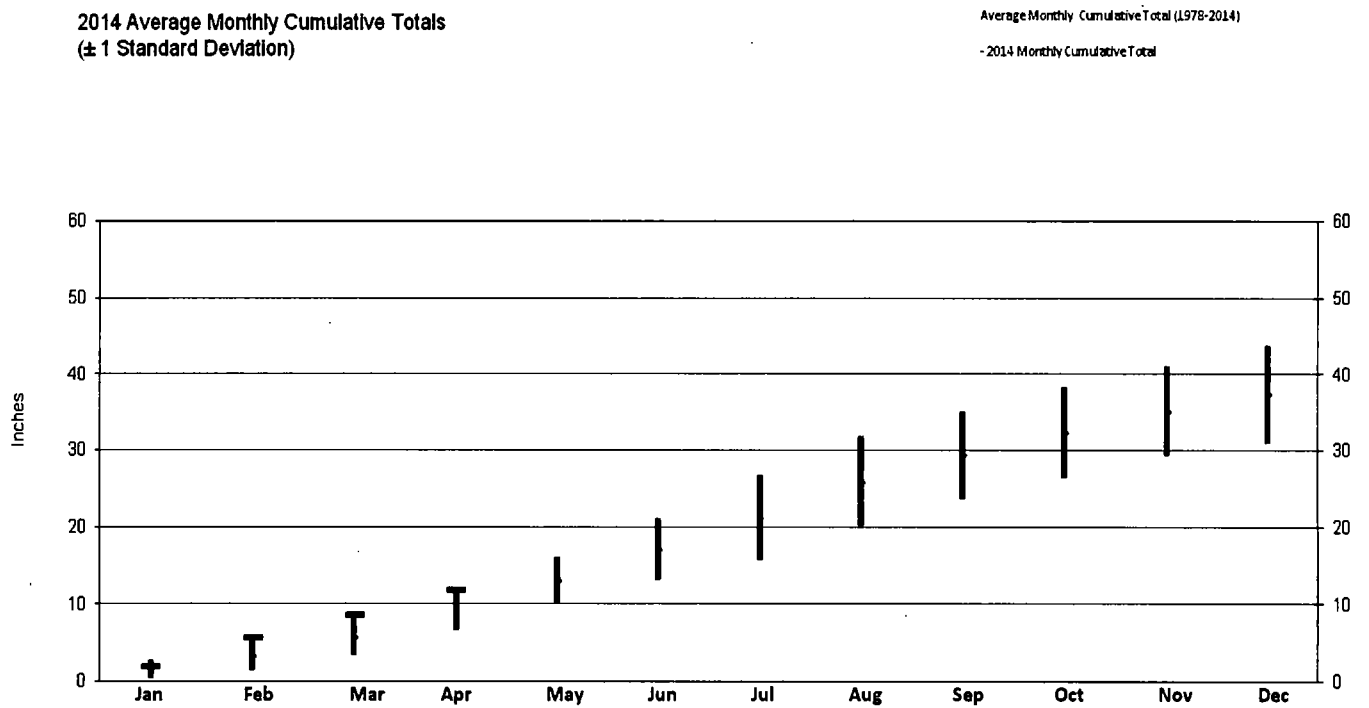
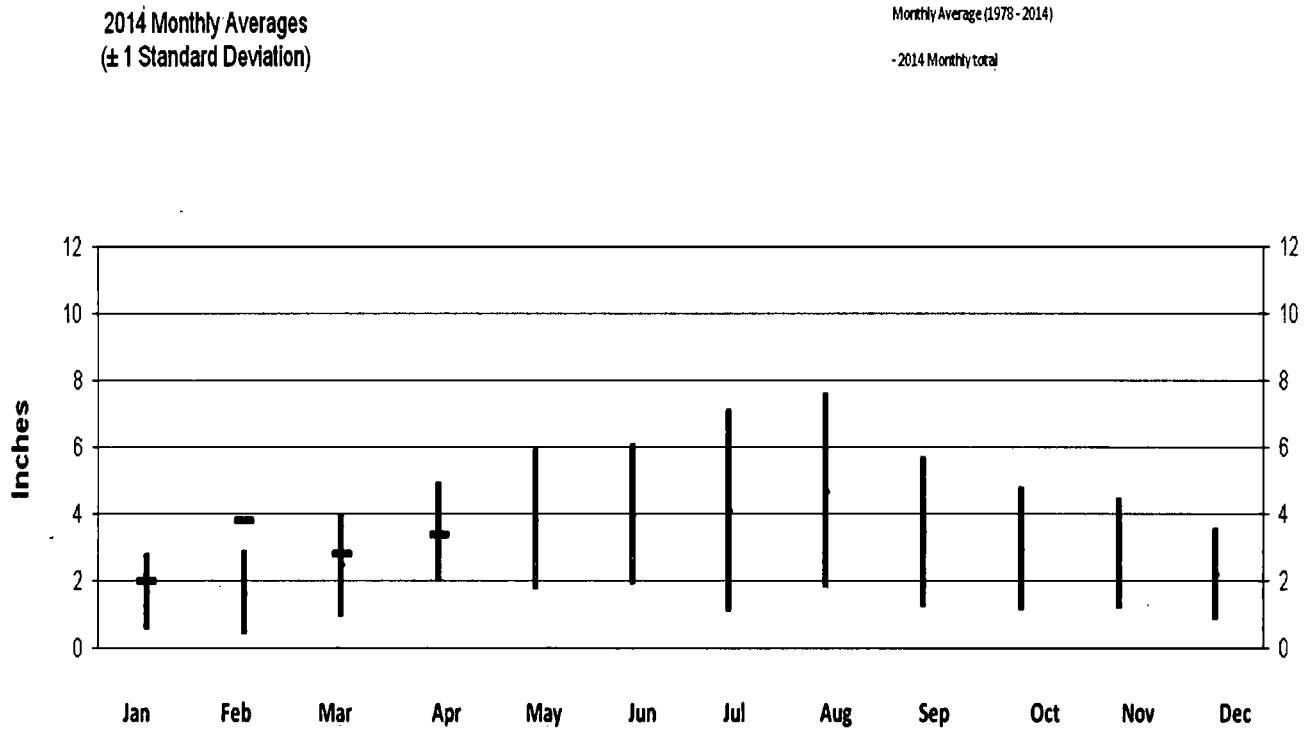
## **Attachment 1**

### **Gypstack**

Surface-Water Volumes within the Phosphogypsum Stack System



## 1978 Through 2014 DePue Site Precipitation





Analytical Results for Samples Collected at the 002 Outfall (mg/L)

Sample Collection Date	pH (S.U.)	Total Dissolved Solids (mg/L)	Total Phosphorus (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Ammonia- Nitrogen (mg/L)	Unionized Ammonia (mg/L)
1/13/14	6.18	295	0.683	0.430	94.2	<0.0600	<0.00100
3/12/14	7.65	226	0.154	0.365	54.8	0.708	0.00319
3/24/14	7.62	346	1.03	0.431	102	0.243	0.00158
4/03/14	7.73	332	0.770	0.444	76.2	0.220	0.00199
4/10/14	8.26	461	0.567	0.614	128	0.142	0.00574
4/17/14	8.74	478	0.631	0.589	173	0.120	0.0168
<b>Former Permit IL 0032182 Limits</b>	6.5 – 9	1,000	Report	1.4	500	15	0.04

Analytical Results for Samples Collected Quarterly at the Duck Pond, Lower Swale, Upper Swale, Clear Water Pond (mg/L)

Sample Collection Date	pH (S.U.)	Total Dissolved Solids (mg/L)	Total Phosphorus (mg/L)	Fluoride (mg/L)	Sulfate (mg/L)	Ammonia-Nitrogen (mg/L)
Duck Pond						
2/27/14	No sample collected, pond frozen					
Lower Swale						
2/27/14	7.28	3100	63.4	3.51	1960	40.8
Upper Swale						
2/27/14	7.30	3730	64.3	4.14	2350	72.0
Clear Water Pond						
2/27/14	No sample collected, pond frozen					

**Attachment 2**  
**Summary of Sampling Results**  
**DePue Interim Water Treatment Plant**

**Interim Consent Order Report**  
**April, 2014**  
**Summary Of Analytical Results**  
**DePue Interim Water Treatment Plant**

**Influent Data (mg/L)**

<b>Date</b>	<b>TSS</b>	<b>Cadmium</b>	<b>Copper</b>	<b>Iron</b>	<b>Manganese</b>	<b>Nickel</b>	<b>Lead</b>	<b>Zinc</b>	<b>pH- std units</b>	<b>Lift Station Flow (gpm)</b>
01/07/14	50	1.8	50	2	53	1.1	<1.0	1,000	5.88	10
02/04/14	31	1.4	51	4.1	46	<1.0	<1.0	930	5.98	10
03/04/14	140	1.2	47	1.6	45	1	<1.0	870	6.01	54
04/01/14	33	1.6	43	9.5	39	1	<1.0	870	5.86	36
<b>YTD Average</b>	<b>64</b>	<b>1.5</b>	<b>48</b>	<b>4.3</b>	<b>46</b>	<b>1.0</b>	<b>1.0</b>	<b>918</b>	<b>5.93</b>	<b>28</b>

**Notes:**

1. Values preceded by "<" were not detected greater than the laboratory method detection limit shown.

**Interim Consent Order Report**  
**April, 2014**  
**Summary Of Analytical Results**  
**DePue Interim Water Treatment Plant**

**Effluent Data (mg/L)**

Date	TSS	Cadmium	Copper	Iron	Manganese	Nickel	Lead	Zinc	pH - std units
01/07/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.28	7.44
01/14/14	5.6	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.28	7.00
01/21/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.18	7.04
01/28/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.29	7.00
02/04/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.39	7.20
02/11/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.28	6.96
02/18/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.17	7.00
02/25/14	<4.0	<0.02	<0.10	<0.10	0.12	<0.10	<0.10	0.23	7.04
03/04/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.22	7.22
03/11/14	<4.0	<0.02	<0.10	<0.10	0.19	<0.10	<0.10	0.57	7.04
03/18/14	<4.0	<0.02	<0.10	<0.10	0.94	<0.10	<0.10	1.1	7.00
03/25/14	<4.0	<0.02	<0.10	<0.10	0.11	<0.10	<0.10	0.29	7.00
04/01/14	<4.0	<0.02	<0.10	<0.10	0.12	<0.10	<0.10	0.32	7.04
04/08/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.2	6.98
04/15/14	<4.0	<0.02	<0.10	<0.10	0.1	<0.10	<0.10	0.32	7.14
04/22/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.33	6.96
04/29/14	<4.0	<0.02	<0.10	<0.10	<0.10	<0.10	<0.10	0.26	7.00

<b>YTD Avg</b>	4.1	0.02	0.10	0.10	0.16	0.10	0.10	0.34	7.06
<b>Apr Avg</b>	4.0	0.02	0.1	0.1	0.1	0.1	0.1	0.29	7.02
<b>Apr Max</b>	4.0	0.02	0.1	0.1	0.1	0.1	0.1	0.33	7.14

**DISCHARGE LIMITS (mg/l)**

	TSS	Cadmium	Copper	Iron	Maganese	Nickel	Lead	Zinc	pH-std units
<b>Daily Max</b>	30	0.3	1	4	2	2	0.4	2	6-9
<b>Monthly Avg</b>	15	0.15	0.5	2	1	1	0.2	1	6-9

**Notes:**

1. Values preceded by "<" were not detected greater than the laboratory method detection limit shown.